bintec elmeg
Teldat Group Company

IP ACCESS ROUTER

The universal VPN router with VDSL2 (opt.), ADSL2+, and ISDN

# bintec RS353j

- VDSL2 (opt.) / ADSL2+ / ISDN Modem- (Annex B/J)
- VDSL2 upgradeable by license
- Vectoring ready
- 5x IPSec-tunnels, HW-acceleration
- Integrated Power Supply
- Flexible mounting: Desktop or 19"- Rack
- Stateful Inspection Firewall

# bintec RS353j

## The universal VPN router with VDSL2 (opt.), ADSL2+, and ISDN

The bintec RS353j with its combined VDSL (opt.)/ADSL2+ Modem (Annex B/J) and ISDN S0 interface is ideal for use in home offices and at small branch locations.

### Product description

The bintec RS353j is a powerful professional VPN router for high-speed internet access. With its combination VDSL2 and ADSL 2+ modem, this model gives small and mid-sized companies the foundation they need to establish state-of-the-art, robust internet connectivity.

The RS353j delivers advanced security, flexibility, and exceptional performance across a wide range of applications. The combination VDSL2 and ADSL2+ modem supports both the Annex B (ADSL over ISDN, used primarily in Germany) ADSL standard as well as all digital mode Annex J without a splitter. It is also compatible with the popular "all IP" service of Deutsche Telekom. This router boasts a fan-less metal housing, offers long-term reliability for business-critical applications, and makes an ideal access router for small and mid-sized enterprises (SMEs), branch locations, and home offices.

Thanks to the included 19-inch rackmount conversion bracket, customers can easily integrate this model into 19-inch server racks or operate it on the desktop. Rack mounting is further simplified by the device height of exactly one rack unit and the integrated power supply.

In addition to the VDSL2 /ADSL2+ modem, the bintec RS353j also provides five Gigabit Ethernet ports which can be independently configured for use in a LAN, WAN, or DMZ. The device's integrated ISDN port can be used for remote configuration access or as an ISDN backup interface. The included five licenses for hardware-accelerated IPSec tunnels provide comprehensive high-speed VPN functionality and allow for secure connections to branch locations and off-site employees. A USB console port allows access to basic router features in critical environments.
With its wide range of WAN connectivity options, the RS353j raises the bar for flexibility among access routers.

### Smart design

The fan-free metal housing is a proven, rugged design that has set bintec devices apart from the competition for years. The integrated power supply and 19" conversion bracket now also make it easy to install in a 19" rack.

### Maximum performance

The bintec RS353j is based on a powerful platform with unrivaled capabilities. Customers with VDSL2 connections can double their data transfer rates by taking advantage of VDSL vectoring technology. High speed interfaces handle heavy local network traffic with ease. You can even establish links between separate company locations over secure, encrypted VPN tunnels.

### Airtight security

The bintec RS353j not only delivers outstanding performance, it also provides a comprehensive range of security features. With five simultaneous IPSec channels available, you can establish secure links between branch locations, subsidiaries, and home offices. The integrated IPSec implementation in bintec routers allows the use of pre-shared keys as well as digital certificates as recommended by Germany's Federal Office for Information Security. This lets you use a public key infrastructure and ensures maximum security. An object-oriented stateful inspection firewall offers packet filtering to provide additional protection against attacks.

## Professional management

A graphical user interface is the primary means of configuring the router. This fast, web-based interface makes it easy to set up routers using the integrated configuration wizard. Administrators can also manage the devices locally or remotely using configurable telnet, SSH, ISDN login, or GSM dial-in. The bintec DIME Manager is a free software tool that allows administrators to manage up to 50 devices at once.

## Ready for the future

Businesses can easily integrate the RS353j into existing company networks. This bintec router also allows for a gradual migration to the new IPv6 internet protocol. The integrated VDSL2 modem of the bintec RS353j supports VDSL bandplan 998 including profiles 8b and 17a, the standards used in Germany and most other European countries. The modem also supports automatic failover to ADSL2+. With easy migration from ADSL2+ to VDSL2 and support for VDSL vectoring, the professional-grade bintec RS353j router is a sound investment in your organization's future.

## WLAN Controller, HotSpot and adult content filtering

The router also includes all the functionality of the bintec WLAN Controller. The bintec WLAN controller lets you configure and monitor small- and mid-sized WLAN networks with up to 12 access points. No matter whether you need frequency management with automatic channel selection, loadbalancing across several access points, support for virtual LANs, or virtual wireless network administration (multi-SSID) - you have all these advanced features at your fingertips with the WLAN Controller. The software continually monitors the entire wireless network, notifying administrators of any malfunctions or security threats.

The router's integrated HotSpot Gateway together is an ideal complement to the WLAN Controller in combination with a bintec HotSpot license, allowing operators to set up a wireless guest network that requires authentication. This secure separation between the guest network and company network is configured through the WLAN Controller and implemented using virtual wireless networks. An additional highlight is the optional Cobion filter which can be used to prevent children and youth from accessing inappropriate content.

**Variants**

| | |
|---|---|
| **bintec RS353j** (5510000375) | IP Access Router; Desktop device with opt. 19"Rack; incl. VDSL2(opt.) & ADSL2+ modem (Annex B/J,ISDN); 1x ISDN BRI; incl. 5 IPSec tunnel , certificates, HW encryption; 4+1 Gigabit Eth. switch; USB Port Typ B; USB port; german and intern. version. |

## Features

| ISDN | |
|---|---|
| Bit rate adaption | V.110 (1,200 up to 38,400 bps), V.120 up to 57,600 kbps (HSCSD) for connection to GSM subscribers |
| B channel protocols | Excellent interoperability with other manufacturers (Raw HDLC, CISCO HDLC, X.75) |
| ISDN auto-configuration | Automatic recognition and configuration of ISDN protocols |
| ISDN leased lines | Supported leased lines: D64S, D64S2, TS02, D64S2Y |
| X.31 over CAPI | Support for various connection paths: X.31/A for ISDN D-channel, X.31/A+B for ISDN B-channel, X.25 within ISDN B-channel (also leased lines) |
| CAPI | CAPI 2.0 with CAPI user concept (password for CAPI use) |
| ISDN protocols | Euro-ISDN (Point-to-mulitpoint/Point-to-point), 1TR6 and other national ISDN protocols |

| Routing | |
|---|---|
| Multicast IGMP | Support of Internet Group Management Protocol (IGMP v1, v2, v3) for the simultaneous distribution of IP packets to several stations |
| RIP | Support of RIPv1 and RIPv2, separated configurable for each interface |
| Multicast IGMP Proxy | For easy forwarding of multicast packets via dedicated interfaces |
| Extended RIP | Triggerd RIP updates according RFC 2091 and 2453, Poisened Rerverse for a better distribution of the routes; furthermore the possibility to define RIP filters for each interface. |
| Multicast inside IPSec tunnel | Enables the transmission of multicast packets via an IPSec tunnel |
| Policy based Routing | Extended routing (Policy Based Routing) depending of diffent criteria like IP protocols (Layer4), source/destination IP address, source/destination port, TOS/DSCP, source/destination interface and destination interface status |

| Protocols / Encapsulations | |
|---|---|
| DHCP | DHCP Client, Server, Proxy and Relay for siplified TCP/IP configuration |
| PPP/MLPPP | Support of Point to Point Protocol (PPP) for establishing of standard PPP connections, inclusive the Multilink extension MLPPP for the bundeling of several connections |
| IPoA | Enables the easy routing of IP via ATM |
| DNS Forwarding | Enables the forwarding of DNS requests of free configurable domains to assigned DNS server. |
| PPPoE (Server/Client) | Point-to-Point Protocol over Ethernet (Client and Server) for establisching of PPP connections via Ethernet/DSL (RFC 2516) |

## Protocols / Encapsulations

| | |
|---|---|
| Packet size controling | Adaption of PMTU or automatic packet size controling via fragmentation |
| PPPoA | Point to Point Protocol over ATM for establishing of PPP connections via ATM/DSL |
| DNS | DNS client, DNS server, DNS relay and DNS proxy |
| DYN DNS | Enables the registering of dynamic assigned IP addresses at adynamic DNS provider, e.g. for establishing of VPN connections |
| MLPPPoE (Server/Client) | Multilink extension MLPPPoE for bundeling several PPPoE connections (only if both sides support MLPPPoE) |

## Quality of Service (QoS)

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| DiffServ | Priority Queuing of packets on the basis of the DiffServ/TOS field |
| Policy based Traffic Shapping | Dynamic bandwidth management via IP traffic shaping |
| Bandwidth reservation | Dynamic reservation of bandwidth, allocation of guaranteed and maximum bandwidths |
| TCP Download Rate Control | For reservation of bandwidth for VoIP connections |
| Layer2/3 tagging | Conversion of 802.1p layer 2 priorisation information to layer 3 diffserv attributes |

## Redundancy / Loadbalancing

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| BoD | Bandwidth on Demand: dynamic bandwidth to suit data traffic load |
| VPN backup | Simple VPN backup via different media. Additional enables the bintec elmeg interface based VPN concept the application of routing protocols for VPN connections. |
| Load Balancing | Static and dynamic load balancing to several WAN connections on IP layer |
| BRRP | Optional: Bintec Router Redundancy Protocol for backup of several passive or active devices with free selectable priority |

## Layer 2 Functionality

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|---|---|
| VLAN | Support of up to 256 VLAN (Virtual LAN) for segmentation of the network in independent virtual segments (workgroups) |
| Bridging | Support of layer 2 bridging with the possibility of separation of network segment via the configuration of bridge groups |
| Proxy ARP | Enables the router to answer ARP requests for hosts, which are accessible via the router. That enables the remote clients to use an IP address from the local net. |

## Content of Delivery

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| 19" brackets and screws | Two 19" brackets for the switch panel mounting |
| Installation Poster | Guide for the Installation |
| Ethernet cable | 1 Ethernet cable, 2m |

## Content of Delivery

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|---|---|
| ISDN (BRI/S0) cable | ISDN (BRI/S0) cable, 2m |
| VDSL/ADSL cable | VDSL/ADSL cable (RJ45-RJ45), 3m |
| Power cable | Power Plug 100-240V / 1,5 A |
| Safety Instructions | Safety Instructions |

## Service

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| Software Update | Free-of-charge software updates for system software (BOSS) and management software (DIME Manager) |
| Warranty | 2 year manufacturer warranty inclusive advanced replacement |

## Options

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| IP address ISDN B/D channel license | Free of charge license for IP address transmission in ISDN D or B channel for IPSec connections; registering under www.bintec-elmeg.com required. |

## DSL

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|---|---|
| VDSL | VDSL2 ITU G.993.2 |
| VDSL Profile | VDSL Profile 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a |
| VDSL | Compatibel to VDSL2 connection of Deutsche Telekom |
| VDSL Vectoring | Vectoring ready & Vectoring capable |
| VDSL | Downward compatible to ADSL/ADSL2/ADSL2+ over ISDN, Annex B |
| ADSL 2 / ADSL 2+ | ADSL over ISDN, Annex B and Annex J, compatible to the 'All IP' connection of Deutschen Telekom (ITU G.992.3, ITU G.992.5) |
| ADSL | ADSL over ISDN (ITU G.992.1 Annex B, ISDN - compatible to U-R2 connection of Deutsche Telekom, G.Lite (ITU G.922.2) |
| ADSL | Support of Dying Gasp |
| ATM | Support of layer 1 protocol AAL5, PVCs, RFC 1483 |
| ATM | Support of up to 7 virtual channels (VC) |
| ATM | Support of OAM F4/F5 line monitoring |
| ATM | Support of ATM traffic management (COS - CBR, VBR, UBR) |

## VPN

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|---|---|
| Number of VPN tunnels | Inclusive 5 active VPN tunnels with the protocols IPSec, PPTP, L2TP and GRE v.0 (also in combination possible) |
| PPTP (PAC/PNS) | Point to Point Tunneling Protocol for establishing fo Virtual Privat Networks, inclusive strong encryption methods with 128 Bit (MPPE) up to 168 Bit (DES/3DES, Blowfish) |
| GRE v.0 | Generic Routing Encapsulation V.0 according RFC 2784 for common encapsulation |

| VPN | |
|---|---|
| L2TP | Layer 2 tunnelling protocol inclusive PPP user authentication |
| IPSec | Internet Protocol Security establishing of VPN connections |
| IPSec Algorithms | DES (64 Bit), 3DES (192 Bit), AES (128,192,256 Bit), CAST (128 Bit), Blowfish (128-448 Bit), Twofish (256 Bit); MD-5, SHA-1, RipeMD160, Tiger192 Hashes |
| IPSec hardware acceleration | Integrated hardware acceleration for IPSec encryption algorithms DES, 3DES, AES |
| IPSec IKE | IPSec key exchange via preshared keys or certificates |
| IPSec IKE Config Mode | IKE Config Mode server enables dynamic assignment of IP addresses from the address pool of the company. IKE Config Mode client enables the router, to get assigned dynamically an IP address. |
| IPSec IKE XAUTH (Client/Server) | Internet Key Exchange protocol Extended Authenticaion client for login to XAUTH server and XAUTH server for loging of XAUTH clients |
| IPSec IKE XAUTH (Client/Server) | Inclusive the forwarding to a RADIUS-OTP (One Time Password) server (supported OTP solutions see www.bintec-elmeg.com). |
| IPSec NAT-T | Support of NAT-Traversal (Nat-T) for the application at VPN lines with NAT |
| IPSec IPComp | IPSec IPComp data compression for higher data throughput via LZS |
| IPSec certificates (PKI) | Support of X.509 multi-level certificates compatible to Micrososft and Open SSL CA server; upload of PKCS#7/8/10/12 files via TFTP, HTTP, HTTP, LDAP, file upload and manual via FCI |
| IPSec SCEP | Certificates management via SCEP (Simple Certificate Enrollment Protocol) |
| IPSec Certificate Revocation Lists (CRL) | Support of remote CRLs on a server via LDAP or local CRLs |
| IPSec Dead Peer Detection (DPD) | Continuous control of IPSec connection |
| IPSec dynamic IP via ISDN | Transmission of dynamic IP address in ISDN D or B channel; free-of-charge licence necessary |
| IPSec dynamic DNS | Enables the registering of dynamic IP addresses by a dynamic DNS provider for establishing a IPSec connection. |
| IPSec RADIUS | Authentication of IPSec connections at a RADIUS server. Additionally the IPSec peers, which were configured on a RADIUS server, can be loaded into the gateway (RADIUS dialout). |
| IPSec Multi User | Enables the Dial-in of several IPSec clients via a single IPSec peer configuration entry |
| IPSec QoS | The possibility to operate Quality of Service (traffic shaping) inside of an IPSec tunnel |
| IPSec NAT | By activating of NAT on an IPSec connection it is possible, to implement several remote locations with identical local IP addess networks in different IP nets for the VPN connection |
| Number of IPSec tunnels | Inclusive 5 active IPSec tunnels |

| Security | |
|---|---|
| NAT/PAT | Symmetric Network and Port Address Translation (NAT/PAT) with randomly generated ports inclusive Multi NAT (1:1 translation of whole networks) |
| Policy based NAT/PAT | Network and Port Address Translation via different criteria like IP protocols, source/destination IP Address, source/destination port |
| Policy based NAT/PAT | For incoming and outgoing connections and for each interface variable configurable |
| Content Filtering | Optional ISS/Cobion Content filter (30 day test license inclusive) |

## Security

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|---|---|
| Stateful Inspection Firewall | Packet filtering depending on the direction with controling and interpretation of each single connection status |
| Packet Filter | Filtering of IP packets according to different criteria like IP protocols, source/destination IP address, source/destination port, TOS/DSCP, layer 2 priority for each interface variable configurable |

## Logging / Monitoring / Reporting

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| Internal system logging | Syslog storage in RAM, display via web-based configuration user interface (http/https), filter for subsystem, level, message |
| External system logging | Syslog, several syslog server with different syslog level configurable |
| E-Mail alert | Automatic E-Mail alert by definable events |
| SNMP traps | SNMP traps (v1, v2, v3) configurable |
| Activity Monitor | Sending of information to a PC on which Brickware is installed |
| IPSec monitoring | Display of IPSec tunnel and IPSec statistic; output via web-based configuration user interface (http/https) |
| Interfaces monitoring | Statistic information of all pysical and logical interfaces (ETH0, ETH1, SSIDx, ...), output via web-based configuration user interface (http/https) |
| ISDN monitoring | Display of active and past ISDN connections; output via web-based configuration user interface (http/https) |
| IP accounting | Detailed IP accounting, source, destination, port, interface and packet/bytes counter, transmission also via syslog protocol to syslog server |
| ISDN accounting | Detailed ongoing recording of ISDN connection parameter like calling number and charging information, transmission also via syslog protocol to syslog server |
| RADIUS accounting | RADIUS accounting for PPP, PPTP, PPPoE and ISDN dialup connections |
| Keep Alive Monitoring | Control of hosts/connections via ICMP polling |
| Tracing | Traces can be stored in PCAP format, so that import to different open source trace tools (e.g. wireshark) is possible. |
| Tracing | Detailed traces can be done for different protocols e.g. ISDN, PPPoE, ... generation local on the device and remote via DIME Manager |

## Administration / Management

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|---|---|
| RADIUS | Central check of access authorization at one or several RADIUS server, RADIUS (PPP, IPSec inclusive X-Auth and login authentication) |
| RADIUS dialout | On a RADIUS server configured PPP und IPSec connection can be loaded into the gateway (RADIUS dialout). |
| TACACS+ | Support of TACACS+ server for login authentication and for shell comando authorization |
| Time synchronization | The device system time can be obtained via ISDN and from a SNTP server (up to 3 time server configurable). The obtained time can also be transmitted per SNTP to SNTP clients. |

## Administration / Management

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|---|---|
| Automatic Time Settings | Time zone profiles are configurable. That enables an automatic change from summer to winter time. |
| Supported management systems | DIME Manager, XAdmin |
| Configurable scheduler | Configuring of time and event controlled tasks, e.g. reboot device, activate/deactivate interface, activate/deactivate WLAN, trigger SW update and configuration backup |
| Configuration Interface (FCI) | Integrated web server for web-based configuration via HTTP or HTTPS (supporting self created certificates). This user interface is by most of bintec elmeg GmbH products identical. |
| Software update | Software updates are free of charge; update via local files, HTTP, TFTP or via direct access to the bintec elmeg web server |
| Remote maintenance | Remote maintenance via telnet, SSL, SSH, HTTP, HTTPS and SNMP (V1,V2,V3) |
| ISDN remote maintenance, X75 | Remote maintenance via ISDN dial-in with checking of the calling number. The ISDN remote maintenance connection between two bintec elmeg devices can be encrypted. |
| ISDN remote maintenance, X75 | A transparent mode enables transmissions of configurations and software updates respectively |
| GSM remote maintenance | Remote maintenance via GSM login (external USB UMTS (3G) modem required) |
| Device discovery function | Device discovery via SNMP multicast. |
| On The Fly configuration | No reboot after reconfiguration required |
| SNMP | SNMP (v1, v2, v3), USM model, VACM views, SNMP traps (v1, v2, v3) configurable, SNMP IP access list configurable |
| SNMP configuration | Complete management with MIB-II, MIB 802.11, Enterprise MIB |
| Configuration export and import | Load and save configurations, optional encrypted; optional automatic control via scheduler |
| SSH login | Supports SSH V1.5 and SSH V2.0 for secure connections of terminal applications |
| HP OpenView | Integration into Network Node Manager |
| XAdmin | Support of XAdmin roll out and configuration managemant tool for larger router installations (IP+ISDN+GSM) |
| Configuration via USB | Configuration interface is available |

## Interfaces

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| Ethernet | 5 x 10/100/1000 Mbps Ethernet Twisted Pair, autosensing, Auto MDI/MDI-X, up to 4 ports can be switches as additional WAN ports incl. load balancing, all Ethernet ports can be configured as LAN or WAN. |
| USB 2.0 host | USB 2.0 full speed host port for connecting LTE(4G) or UMTS(3G) USB sticks (supported sticks: see www.bintec-elmeg.com) |
| USB-Console | Service-Interface USB 2.0 plug B (driver: see www.bintec-elmeg.com) |
| VDSL2/ADSL 2+/ADSL | ADSL over ISDN (compatible to U-R2 connection of Deutsche Telekom) |
| ISDN Basic Rate (BRI) | 1 x BRI (TE), 2 B channels |

| Hardware | |
|---|---|
| Realtime clock | System time persists even at power failure for some hours. |
| Wall mounting | Integrated in housing |
| Desktop operation | Possible, rubber pad included the package |
| Environment | Temperature range: Operational 0°C to 40°C; storage -25°C to 70°C; Max. rel. humidity 10 - 95% (non condensing) |
| Protection Class | IP20 |
| Power supply | Internal power supply 110-240V 1.5 A, with energy efficient switching controler; complies with EuP directive 2008/28/EC |
| Power consumption (idling) | Less than 5 Watt |
| Housing | Metal case, opening for Kensington lock, prepared for wall mounting |
| Dimension | Ca. 265 mm x 40 mm x 170 mm (W x H x D) |
| Fan | Fanless design therefor high MTBF |
| Reset button | Restart or reset to factory state possible |
| Status LEDs | Power, Status, 10 * Ethernet, VDSL, ISDN, WLAN, USB, LTE |
| Function Button | Supported from Release 9.1.10 |
| Standards and certifications | R&TTE directive 1999/5/EG; EN 55022; EN 55024 + EN 55024/A1; EN61000-3-2; EN 61000-3-3; EN 61000-4-4; EN 60950-1; EN 300 328; EN 301 489-17; EN 301 489-1; EN 301 893 |

## Accessoires

| WLAN Controller | |
|---|---|
| **License WLAN Contr. 6AP** (5500000943) | WLAN Controller license for 6 Access Points (APs) or for the extension with 6 APs for the products: RS123x, RS353xx. Rxxx2 and RXL12x00. |

| Software Licenses | |
|---|---|
| **VDSL License RS353jx (Annex B)** (5500001623) | VDSL license for RS353j/jw/j-4G (Annex B, ADSL over ISDN) |
| **BRRP-RS123x/RS35x-Series** (5500001630) | Software License for bintec Router Redundancy Protocol (BRRP) for RS123x and RS35x-series |
| **Cobion Content Filter Small** (80551) | Cobion content filter for RSxxx, Rxx02, RTxx02 series; R230a(w), R232b(w), TR200, R1200(w/wu), R3000(w), R3400, R3800, R232aw, RV-Series; list price for one year |

| Pick-up Service / Warranty Extension | |
|---|---|
| **Service Package 'small'** (5500000810) | Warranty extension of 3 years to a total of 5 years, including advanced replacement for bintec elmeg products of the category 'small'. Please find a detailed description as well as an overview of the categories on www.bintec-elmeg.com/servicepackages. |

## Product Services

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| **HotSpotHosting 2yr 1 location** (5500000861) | HotSpot solution hosting fee for 2 year and 1 location |
| **HotSpotHosting 1yr 1 location** (5510000198) | HotSpot solution hosting fee for 1 year and 1 location |
| **Additional HotSpot location** (5510000199) | Additional location for the HotSpot solution (551000198, 5500000861) valid for one year |

## Add-ons

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| **bintec 4GE-LE** (5530000119) | LTE (4G)/UMTS (3G) extension device for router; 1x Gbit Eth; Simcard slot; Wallmounting; PoE Injector inclusive |